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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,547	09/26/2005	Toshihiro Ooishi	49677-160	6424

20277 7590 08/21/2009

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EXAMINER	
HOOVER, MATTHEW	
ART UNIT	PAPER NUMBER
1791	
MAIL DATE	DELIVERY MODE
08/21/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/511,547	OOISHI ET AL.	
	Examiner	Art Unit	
	MATTHEW HOOVER	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 September 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment filed 6/14/09 has been entered. Claims 1-12 remain pending in the application. The previous 112 rejections of claims 7-9 are withdrawn in light of Applicant's amendments to claims 7-10 and 12.

Drawings

Figures 7 and 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 8, the equation “one-(m+1)th” is indefinite because it is not clear to the examiner what the equation represents. The term m is not defined by any number but is just said to be a natural number. This broad term does not give the examiner any idea to the function of definition of the term or the equation. It is also unclear as to the “-“ in the equation, as the examiner does not know if this is a subtraction symbol are meant to be something else.

Regarding claim 9, the term "assuming" in claim 9 is a relative term which renders the claim indefinite. The term "assuming" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

The term average reciprocating movement distance (D) is indefinite. The applicant does not state what is being moved and is unclear as to if it is just one set of movement, more than one set or less. It’s also unclear whether “Amm” and “Dmm” are the same or different from “A” and “D”, respectively.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tobisaka (EP 1065175).

Regarding claim 1, Figure 3 shows that the total movement distance in one set is 300mm and there are 11 sets. Therefore the average reciprocating movement distance is 300mm and the burner interval is 175mm (determined by figure 3A). Therefore the average reciprocating movement distance (300mm) is less than twice the burner interval (350).

As stated in the previous office action, Tobisaka discloses a method for manufacturing a glass optical fiber preform by vapor deposition (abstract). The method includes using a plurality of burner units (figure 1 #62, 64, 66, 68 and 70) arranged opposite a preform rod (figure 1 #38) (abstract). Figure 3 shows the movement of the burners over time. The burners move in the positive x-direction to a turn back location (point where direction switches from positive x-direction to negative x-direction). Once the turn back location reaches a specific point, which is a certain distance from the initial turn back location, the burner the turn back in the negative x-direction and the turn back position is moved in the negative direction. This movement continues until each burner

returns to its original position. This can be considered one set of operation. Figure 3 can also be used to find the average reciprocating movement. Using the graph (3A), the total movement distance in one set is approximately 660mm (maximum distance in x-direction is 330 and travels there and back) while the number of reciprocations in a set is 11 (number of times direction changes). Therefore the average reciprocating distance is (660/11) which is 60mm. the burner to burner distance is 150mm (D1 figure 3A) so the average reciprocating distance is less than 2*D1. Regarding claim 2, figure 3A shows that the movement distance of the turn back location is almost equal each time. This means that the distance the turn back location moves forward or backward in the x-direction is the same after each reciprocation. Regarding claim 6, the movement range of the turn back position is approximately 310mm (figure 3A). The burner interval is also estimated to be 150mm from figure 3A. The movement range (310mm) is about the same as an integer (2) times the burner interval (150). Regarding claim 7, it can be read off of figure 3A that the turn-back location has a movement range of about 310mm. it can also be read that the minimum movement distance of the turn back location is 50mm (distance between turn back locations in subsequent reciprocations). Using these values, the movement range of the turn back location is about n times (n being an integer) the burner interval (150mm) minus the minimum movement distance of the turn back location. (310mm is about 250mm).

Tobisaka does not disclose that the depositing of glass particles can be repeated for multiple layers.

It would have been obvious to one of ordinary skill in the art at the time of the invention to repeat the process of depositing glass particles on a rod, since it has been held that claimed continuous operations would have been obvious in light of the batch process of the prior art.. See MPEP 2144.04(V)(E) and *In re Dilnot*, 319 F.2d 188, 138 USPQ 248 (CCPA 1963).

Regarding claims 3-5, Tobisaka does not disclose the different iterations of burner movement.

Regarding claims 3-5, figure 3A discloses the burner movement of a certain embodiment. It would have been obvious to one of ordinary skill in the art to change the sequence of these movements in order to create a different embodiment since it has been held that selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results. See MPEP 2144.04(IV)(C) and *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946).

Regarding claims 6 and 7, reading from the graph, the values in the relationships in the disclosed claims are not exactly equal to each other.

Regarding claims 6 and 7, it would have been obvious to one of ordinary skill in the art at the time of the invention to approximate the values off of the graph (figure 3A) to determine the relationship between the movement range of the turn back location and the burner interval since it has been held that when the difference between a claimed invention and the prior art is the range or value of a particular variable, then a *prima facie* rejection is properly established when the difference in the range or value is minor.

See MPEP 2131.02(I) and *Titanium Metals Corp of Am v Banner*, 778 F2d 775, 783, 227 USPQ 773, 779 (Fed Cir 1985).

Generally, differences in ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such ranges is critical. See MPEP 2144.05(II)(A), *In re Boesch*, 617 F2d 272, 205 USPQ 215 (CCPA 1980); *In re Aller*, 220 F2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) and *In re Hoeschele*, 406 F2d 1403, 160 USPQ 809 (CCPA 1969).

Regarding claims 8 and 9, the claims are so indefinite that they cannot be adequately addressed by the examiner and therefore do not claim anything new. They are thus rejected as to the same arguments as claim 1.

Regarding claim 10, Tobisaka teaches that the end time, t2, occurs when the number of deposited layers is uniform and they are also added uniformly (figure 3A and B).

Regarding claim 11, Tobisaka teaches that the burners are controlled by motors (paragraph 6). It also teaches that the burners hydrolyze gas particles which in turn causing deposition (paragraph 8).

Tobisaka does not teach that there is a relationship between the reciprocating movement speed and the weight of deposited glass particles.

It would have been obvious to one of ordinary skill in the art at the time of the invention that there is a relationship between the speed of deposition and particle size. Larger particles hydrolyze slower than smaller particles so it would be obvious that it

would take more time for deposition to occur. If the deposition amount needed to be a certain amount at a certain time, it would be obvious to use a certain speed.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tobisaka (EP 1065175) in view of Rau et al (US 4045198).

The teachings of Tobisaka are disclosed above.

Tobisaka does not teach heating and vitrifying the produced body

Rau teaches that glass particles are deposited onto a rod creating a deposited layer (abstract). After the particles are deposited the device undergoes heat treatment, which allows the particles to vitrify (column 2 lines 34-45).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method in Tobisaka with the heating step from Rau. The rationale to do so would have been the motivation provided by the teaching of Rau that to do so would predictably create uniform layers (column 2 lines 34-45).

Response to Arguments

7. Applicant's amendments have overcome the 112 (2nd paragraph) rejections from the previous Office Action.
8. Applicant's arguments filed 6/14/09 have been fully considered but they are not persuasive.

Applicant argues on page 1 and 2 of the Remarks that the cited reference does not disclose ore remotely suggest "an average reciprocating movement distance in one set is less than double a burner-to-burner interval." As discussed above in the rejection of claim 1, the average reciprocating movement distance is less than double the burner to burner interval (300<350). The applicant argues that the average reciprocating movement is larger than the burner interval, which is not addressed in the claim.

Applicant argues on page 2 and 3 that the shortening of the taper portion is not achieved in Tobisaka. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., shortening tapered portion) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW HOOVER whose telephone number is (571)270-7663. The examiner can normally be reached on Mon-Thurs 7am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MH/
Examiner AU1791

/KHANH NGUYEN/
Primary Examiner, Art Unit 1791